

PATENT

Atty. Dkt. No. YOR920030507US1

REMARKS

In view of the following discussion, the Applicants submit that the claim now pending in the application is not obvious under the provisions of 35 U.S.C. §103. Thus, the Applicants believe that the presented claim is in condition for allowance.

I. OBJECTION TO CLAIM 36

The Examiner objected to claim 36 for informalities. In response, the Applicants have amended claim 36 in order to more clearly recite aspects of the invention. Specifically, claim 36 has been amended, in accordance with the Examiner's suggestion, to recite "a cumulative length," replacing "an cumulative length." In light of this amendment, the Applicants respectfully request that the objection to claim 36 be withdrawn.

II. REJECTION OF CLAIM 36 UNDER 35 U.S.C. §103

The Examiner rejected claim 36 as being unpatentable under 35 U.S.C. §103(a) over the Tanaka et al. patent application (U.S. Patent Application Publication No. 2005/0144234, published June 30, 2005, hereinafter referred to as "Tanaka") in view of the Cheeniyil et al. patent application (U.S. Patent Application Publication No. 2002/0184293, published December 5, 2002, hereinafter referred to as "Cheeniyil") and further in view of the Panagos et al. patent (U.S. Patent No. 6,601,035, issued July 29, 2003, hereinafter referred to as "Panagos"). The Applicants respectfully traverse the rejection.

The Examiner's attention is respectfully directed to the fact that Tanaka, Cheeniyil, and Panagos fail, singly or in any permissible combination, to teach or suggest a method for optimizing an allocation of system resources in which work on a job having a longest estimated processing time out of all jobs in a job queue is stopped if the cumulative length of time necessary to process all jobs in the job queue exceeds the latest completion deadline among all jobs in the job queue, as recited in Applicants' claim 36.

The Examiner acknowledges in the Office Action that "Tanaka and Cheeniyil are silent in temporarily stopping work on a job having a longest estimated processing time,

PATENT

Atty. Dkt. No. YOR920030507US1

if the cumulative length of time necessary to process all jobs in the job queue, including the new job request, exceeds a longest completion deadline among all jobs in the job queue" (Office Action, Page 4). The Examiner submits, however, that Panagos bridges this gap in the teachings of Tanaka and Cheeniyil. The Applicants respectfully disagree.

By contrast, Panagos teaches performing an "escalation" when the predicted completion time of a workflow activity (*i.e.*, an "individual process step[]," Panagos, column 1, lines 21-23, emphasis added) exceeds the activity's deadline (Panagos, column 3, lines 1-3). In other words, an escalation is triggered by the scheduling (*e.g.*, estimated completion time versus deadline) of an individual activity (*e.g.*, "job") in a queue, and not by the scheduling of the queue as a whole, as claimed by the Applicants in claim 36. Specifically, Panagos does not teach performing an escalation when the cumulative processing time for the queue will cause the latest deadline among all jobs in the queue to be missed.

Moreover, the escalations taught by Panagos do not include temporarily halting the job in the queue having the longest estimated processing time, as claimed by the Applicants in claim 36. By contrast, the escalations taught by Panagos are applied to a "triggering activity" (*i.e.*, the activity that "triggered the escalation," Panagos, column 5, line 29; or for which "the predicted completion time ... is greater than the ... deadline," Panagos, column 3, lines 1-2)). In other words, Panagos does not teach that this triggering activity has the longest processing time of all activities in the workflow, but rather teaches the triggering activity is simply one for which the individual deadline is not expected to be met.

Moreover, the escalations taught by Panagos do not include temporary stoppage of the triggering activity. Instead, the escalations that may be applied to the triggering activity include "restart[ing] the triggering activity" (*i.e.*, in which case the triggering activity is not stopped, but continues from its starting point); "execut[ing] a new activity and resum[ing] the triggering activity" (*i.e.*, in which case the triggering activity is not stopped, but allowed to continue from its current point); or "replac[ing] the triggering activity with a new activity" (*i.e.*, in which case the triggering activity is permanently stopped and replaced with a different activity) (Panagos, column 5, lines 28-32).

PATENT

Atty. Dkt. No. YOR920030507US1

Thus Tanaka, Cheeniyil, and Panagos fail, singly or in any permissible combination, to teach or suggest a method for optimizing an allocation of system resources in which work on a job having a longest estimated processing time out of all jobs in a job queue is stopped if the cumulative length of time necessary to process all jobs in the job queue exceeds the latest completion deadline among all jobs in the job queue, as recited in Applicants' claim 36. By temporarily halting the job having the longest estimated processing time, the cumulative length of time necessary to process all jobs in the queue can be reduced enough to allow timely completion of the job having the latest deadline. Specifically, Applicants' claim 36 positively recites:

36. A method for optimizing an allocation of system resources, comprising:

- determining, for each source from which a system receives job requests, a minimum percentage of job requests to be processed by the system, where the system receives job requests from at least two separate sources;

- allocating system resources among the at least two separate sources to meet at least one job processing obligation and to maximize a total profit of the system; and

- scheduling a processing order of new job requests on-line, wherein said scheduling is accomplished by:

- determining a completion deadline for a new job request;

- determining an estimated process time for the new job request as a length of time needed to process the new job request by the completion deadline; and

- scheduling processing for the new job request based on the completion deadline and the estimated process time as compared to completion deadlines and estimated process times for existing jobs in the system;

- routing the new job request to a server in the system that can complete processing for the new job request soonest;

- assigning the new job request to an end of a job queue of the server;

- determining whether a cumulative length of time necessary to process all jobs in the job queue, including the new job request, exceeds a latest completion deadline among all jobs in the job queue; and

- temporarily stopping work on a job in the job queue having a longest estimated processing time, if the cumulative length of time necessary to process all jobs in the job queue, including the new job request, exceeds the latest completion deadline among all jobs in the job queue. (Emphasis added)

PATENT

Atty. Dkt. No. YOR920030507US1

Since Tanaka in view of Cheeniyil and further in view of Panagos fails to teach or suggest a method for optimizing an allocation of system resources in which work on a job having a longest estimated processing time out of all jobs in a job queue is stopped if the cumulative length of time necessary to process all jobs in the job queue exceeds the latest completion deadline among all jobs in the job queue, Tanaka in view of Cheeniyil and further in view of Panagos does not teach or suggest each and every element of Applicants' claim 36. As such, the Applicants submit that claim 36 is not unpatentable under not 35 U.S.C. §103 and is allowable.

III. CONCLUSION


Thus, the Applicants submit that the presented claim fully satisfies the requirements of 35 U.S.C. §103. Consequently, the Applicants believe that the claim is presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring the issuance of a final action in the claim now pending in the application, it is requested that the Examiner telephone Kin-Wah Tong, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

November 18, 2008

Date



Kin-Wah Tong, Attorney
Reg. No. 39,400
Patterson & Sheridan, LLP
595 Shrewsbury Avenue
Shrewsbury, New Jersey 07702
(732) 530-9404